ALASKA

Emergency Medical Services for Children (EMSC)

NEEDS ASSESSMENT

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ALASKA EMSC NEEDS ASSESSMENT

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OVERVIEW

A well planned and comprehensive Emergency Medical Services for Children program is a primary goal of the Section of Community Health and EMS. Achieving this goal requires a thorough assessment of the present system's strengths and weaknesses, as well as the development of assumptions regarding the availability of resources and emerging trends which may affect the EMSC program. This document represents our best estimates of the capabilities and needs of Alaska's EMS system as they relate to pediatric emergency care.

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DEMOGRAPHIC INFORMATION

The land area of Alaska covers 591,000 square miles; water area is 86,051 square miles. In spite of its low population density of 1.07 persons per square mile, in 1997, 70% of Alaskans lived in communities of 2,500 persons or more. Excluding Anchorage, which contains 41.7% of the state's population, but only 0.3% of the land area, Alaska averaged 0.63 person per square mile. Most Alaskans live in towns and villages or clustered settlements. Much of the state's land area (67.9%) is composed of federal parks, wildlife and wilderness preserves, and remains almost uninhabited.[1]

Pediatric Population

The following table, based on 1997 data, show the estimated number of children in Alaska's population.[2]

Age	# of Children	% of Total Population
<1 year	*10,029*	*1.64*
1-4 years	*71,998*	*11.78*
5-9 years	*57,309*	*9.37*
10-14 years	*54,596*	*8.93*
15-19 years	*45,786*	*7.49*
Total	*239,718*	*39.21*

Children ages 0 through 19 make up 39.21% of the total population. The Northern Region (Nome, North Slope Borough and Northwest Arctic Borough) has a higher proportion of children to adults than the state average at 43.4%.

[1] Alaska Population Overview, 1997 Estimates, Alaska Department of Labor
[2] Alaska Population Overview, 1997 Estimates, Alaska Department of Labor

The population overview report also gives the cultural and ethnic distribution of the population of Alaska, broken down by regions (but not age groups).

Region	*White*	*Native American*	*African American*	*Asian & Pacific Islander*	*Hispanic*
Alaska	74.2	16.7	4.5	4.6	4.5
Anchorage/Mat-Su	80.8	7.5	4.5	4.6	5.6
Gulf Coast	83.8	10.2	0.9	5.1	3.7
Interior	79.0	11.7	6.9	2.4	3.8
Northern	20.4	74.8	0.8	4.1	3.2
Southeast	75.4	19.6	0.8	4.1	3.2
Southwest	21.5	75.2	0.4	2.9	2.6

Hispanic group includes White and African American

Death rate for children in Alaska broken down by age groups:[3]

age	**# of deaths/total**	**rate/100,000**
<1 year	76 (10,029)	758
1-4 years	25 (41,636)	60
5-9 years	16 (57,596)	28
10-14 years	20 (54,596)	37
15-19 years	54 (45,786)	118

[3] Alaska Bureau of Vital Statistics, 1997 Annual Report

The report also gives the most common causes of death for each age group:

<1 year:
- congenital anomalies
- SIDS
- short gestation & low-birth weight related disorders
- homicide

1-4 years:
- motor vehicle
- congenital anomalies
- nervous system disorders

5-9 years:
- motor vehicle
- air transport
- poisoning

10-17 years:
- firearms
- motor vehicle
- cancer

Topographic and Geographic Features

Accessibility is a challenge for most of Alaska. Alaska is huge, (591,000 square miles), with six major mountain ranges, (which includes North America's highest peak), half the world's glaciers, and more active volcanoes than any other country. Alaska's 6,640 miles of coastline and, including islands, has 33,904 miles of shoreline. This is larger than the other 49 states combined. Superimposed on a map of the lower 48 state, Alaska sprawls from Florida to California to Canada.[4]

How people can get to and from a community is an important factor in Alaska for planning emergency medical services. Seventy-five percent of Alaskan communities can access a hospital only by water and/or air. The proximity of another community may also be a key to access. The map on the next page shows the limited number of roads in Alaska and many of the Alaskan marine highway routes.

[4] Alaska EMS Goals, Fourth Edition, 1996, Department of Health and Social Services

The State of Alaska, in its EMS Goals document, categorizes communities by type of access, proximity to certain resources, and size. The following categories and definitions illustrate the capabilities of transportation in Alaska.

ROAD access has three community categories:

- **Highway:** linked to the Alaska highway network throughout the year.
- **Summer highway:** linked by the Alaska highway network during the summer only.
- **Limited highway:** outlying roads but no linkage to the Alaska highway network.

WATER access has two divisions, ocean access and other water access.

Ocean access has three community categories:

- **Marine:** linked by the Alaska marine highway system.
- **Limited marine:** occasional marine highway service.
- **Coastal:** ocean access without linkage to the marine highway system.

Other water access has two categories:
- **River:** along a river used as a primary transportation route (boating, winter ice road).
- **Lake:** along a lake used as a primary transportation route, (boating, winter ice road).

AIR access has six categories:
- **Airstrip:** authorized landing area with small plane capacity only.
- **Airport:** authorized landing area with regular, scheduled commercial air service.
- **Floatplane:** landing area available for float planes (seaplanes).
- **Seaport:** designated landing area for float planes (seaplanes).
- **Helicopter:** landing area available for helicopters.
- **Heliport:** designated landing area for helicopters.

Proximity to another community has one category:
- **Satellite:** road access to a higher level community in 30 minutes or less under normal conditions.[5]

Other challenges for many Alaskan communities include several types of population-related, seasonal changes. These impacts can occur during any season, although activities such as tourism tend to be greatest in the summer months. Most changes cause increases (such as tourism bringing people into an area, increasing population and transportation resources), but others cause decreases (such as people leaving communities to fish for the summer, producing a population and, in some cases, critical EMS personnel shortages). Besides changes in populations, there can be increases or decreases in **transportation** (boat, motor vehicle, or airplane traffic), **EMS responders** (Physicians, Physician Assistants, Paramedics, Community Health Aides, Registered Nurses, Emergency Medical Technicians, or Emergency Trauma Technicians) and **industrial activity** (both high-risk (construction, fishing, hunting, logging, and mining) and lower risk (tourism)). [6]

Alaska's climate and unpredictable weather can create conditions that increase the likelihood of a person requiring emergency medical services. Given the potential for extreme cold and wind conditions, hypothermia and frostbite are risk factors even when proper precautions are taken.

Weather can also hamper EMS response and transport times. Conditions such as fog, high winds, driving rain, and heavy snow can result in frequent airplane groundings and overheadings at many of the state's airports. This is a problem since scheduled, charter, and private aircraft on wheels, floats, and skis form the principle mode of transportation statewide. Major highways can become blocked by avalanches, preventing passage of vehicles including ambulances. Therefore, EMS providers in rural areas and small towns in Alaska have to be prepared to take care of an injured or ill patient for much longer periods of time than EMS providers in most other parts of the country.

[5] Alaska EMS Goals, Fourth Edition, 1996, Department of Health and Social Services
[6] Alaska EMS Goals, Fourth Edition, 1996, Department of Health and Social Services

LEADERSHIP OF EMS SYSTEM

EMS Lead Agency

In 1977, Alaska Statute 18.08.010 designated the lead agency for EMS activities in Alaska as the Department of Health and Social Services (DHSS).

This same legislation created the Alaska Council on EMS (ACEMS) to advise the Commissioner of DHSS with regard to the planning and implementation of a statewide emergency medical services system. ACEMS consists of 11 members who are appointed by the governor for staggered terms of four years. This legislation was amended in 1993 to also designate ACEMS as advising the Governor.

EMSC in Alaska

The Alaska EMS program has had three previous EMSC grants that served as the foundation for the EMS for Children program in Alaska. The Alaska EMSC projects have been achieved through collaboration with representatives from organizations statewide, including: Division of Public Health; Sections of Maternal, Child and Family Health, Epidemiology, Public Health Nursing, and Vital Statistics; Divisions of Mental Health and Developmental Disabilities, Family and Youth Services, and Alcoholism and Drug Abuse; Department of Public Safety, Alaska Highway Safety Planning Agency, Alaska State Troopers, and Division of Fire Prevention; Alaska Psychiatric Institute; Alaska Area Native Health Service; Alaska Community Health Aide/Practitioner program; United States Coast Guard; National Institute for Occupational Safety and Health; regional Native Health Corporations; regional and local EMS agencies; Alaska Marine Safety Education Association; Safe Kids; municipal fire and police departments and public schools, and Alaskan hospitals. EMSC program continues to be a statewide effort to advance the care of children throughout our state.

Currently we are finalizing our five-year strategic plan for EMS for Children. This will further guide our pediatric efforts and institutionalize EMSC in Alaska. ACEMS is actively involved in drafting the plan and will be very involved in implementation of the activities.

In 1998, ACEMS developed an EMSC Task Force and is responsible for chosing and approving its members. Selections include members of ACEMS, regional personnel, and pediatric experts from throughout the state.

In September of 1999, Alaska's EMS program was reassessed by an EMS Technical Assessment Team (TAT), coordinated by the National Highway Traffic Safety Administration (NHTSA). The previous NHTSA assessment was completed in 1992. This reassessment also included a review of our emergency medical services for children program.

Legislation and Regulation

In the late 1970's enabling legislation was passed which designated the Department of Health and Social Services as responsible for the development, implementation, and maintenance of a statewide comprehensive emergency medical services system and gave it the authority to adopt regulations. The Alaska Council on EMS (ACEMS) was also established under this legislation.[7] Current regulations include:

? ? Emergency Medical Technicians, Emergency Medical Technician Instructors, Mobile Intensive Care Paramedic Courses and Mobile Intensive Care Paramedic Course Coordinators (7 AAC 26.010 – 7 AAC 26.170);
? ? Emergency Medical Services Outside Hospitals (7 AAC 26.210 – 7 AAC 26.290);
? ? Medevac Services, Critical Care Air Ambulance Services, and Specialty Aeromedical Transport Teams Outside Hospitals (7 AAC 26.310 – 7 AAC 26.400);
? ? Emergency Trauma Technician Instructors and Approved Emergency Trauma Technician Training Courses (7 AAC 26.410 – 7 AAC 26.490);
? ? Defibrillator Technicians and Approved Training Courses (7 AAC 26.510 – 7 AAC 26.590);
? ? Responsibilities of Medical Directors (7 AAC 26.610 – 7 AAC 26.700);
? ? Trauma Centers and Trauma Registry (7 AAC 26.710 – 7 AAC 26.745);
? ? Emergency Medical Dispatchers (7 AAC 26.810 – 7 AAC 26.840);
? ? General Provisions (7 AAC 26.999);
? ? Do Not Resuscitate Protocol and Identification (7 AAC 16.10 – 7 AAC 16.90)

EMSC remains virtually unaddressed in the legislation, which was last modified in 1993.

Funding

Our current EMSC Coordinator is funded for 40% of her time through a grant from EMSC. This will increase to 88% in FY 00. This funding is through federal grants from EMSC. There is no significant state funding for the EMSC program at this time.

Health Care Finance

In 1997, 9% of the people of Alaska were living in poverty. Also in that year, 52,202 children, age birth through 18 were eligible for Medicaid (26% of the children in the state). Employee Benefits Research Institute (EBRI) was hired by the state to analyze the Current Population Survey (CPS) data. Although the sample size was small, the EBRI estimated that 55% of children in Alaska had private insurance coverage, 35% had public coverage (including Medicaid), and 9% of children were uninsured.[8]

[7] Title 18, (Health, Safety and Housing); Chapter 08, Emergency Medical Services.
[8] Alaska application for State Child Health Plan under Title XXI of the Social Security Act, Version 9/12/97.

The health care delivery system in Alaska is quite unique. In rural Alaska, the tribal health care delivery system is virtually the only provider of health care services. The twelve Alaska Native health corporations, funded by the Indian Health Service, manage the health care services delivered to Alaska Natives in more than 200 villages in the state. In many communities, community health aides (CHAs) (usually specially trained residents of the community), furnish primary care and emergency medical services. They deliver most care with telephone guidance from a physician of the Health Corporation. State Public Health Nurses also provide health care to underserved areas of the state. They focus primarily on maternal and child health. Managed care is in its infancy stage in the state and there are no HMOs.

Denali KidCare

In 1999, the state implemented a new program to ensure that children and teens of both working and non-working families can have the health insurance they need. The program is called Denali KidCare and provides excellent health insurance coverage for children and teens through age 18, and for pregnant women who meet certain income guidelines.

Emergency Medical Services Finance

In the past, with some financial assistance coming from the federal, state and/or local government, emergency medical care was traditionally delivered in small, rural communities at no cost to the patient. Today, governmental financial assistance is rapidly decreasing and many small ambulance services are desperately trying to stay afloat. Most services understand the need for billing, but the process is time consuming and often frustrating for members of small, volunteer services. This is a complicated issue that needs to be addressed soon to ensure the survival of the small, rural services.

HEALTH CARE FACILITIES

In 1993, the Department of Health and Social Services was given statutory authority to designate hospitals as trauma centers. In 1996, regulations were adopted for trauma center certification, using the established criteria from the Committee on Trauma, American College of Surgeons.

An applicant for certification as a level I, II, and III trauma center must provide evidence that the organization has received a certificate of verification at the level for which is applying.

An applicant for certification as a level I or II trauma center with pediatric commitment is required to provide evidence that the organization has received a certificate of verification for pediatric trauma care from the Committee on Trauma, American College of Surgeons.

Only two hospitals in Alaska have Pediatric ICUs; Providence Alaska Medical Center and Alaska Native Medical Center, both are located in Anchorage.

Although several facilities have undergone review in preparation for applying for trauma center designation, only one trauma center has been designated. The following section provides additional information for each level of trauma center.

Level I: There are no Level I trauma centers designated in Alaska. Due to the requirement that a Level I trauma center have surgical training capabilities, it is unlikely that we will have a facility in Alaska capable of Level I designation.

Level II: In 1999, Alaska Native Medical Center became the state's first, and only, Level II trauma center. The facility had been certified as a Level III facility previously.

Level III: Currently, there are no Level III trauma centers in Alaska.

Level IV: The regulations for trauma center certification in Alaska provide an opportunity for facilities in regional hubs, such as Nome, Dillingham, Bethel, etc., to become certified as a Level IV trauma center based on self-disclosure and reporting. No facilities have been certified at the time of this writing, but several facilities have expressed an interest in the process.

The recent NHTSA Technical Assistance Team report provided strongly worded recommendations for improving the trauma care system in Alaska. It is likely that there will be renewed interest in the trauma center designation process.

PREHOSPITAL CARE

EMS Response

About 183,390 people or 30% of the total population live and work in rural Alaska. This means that seven out of ten persons lived in a community with a population of 2,500 or more. About 41.7% of the population live and work in Anchorage.[9] With predominately volunteer ambulance services in the rural areas and long transport times to advanced hospital care, many of those seriously injured or suffering an acute medical condition are not able to obtain timely, definitive medical care. Of the 156 rural communities with an organized emergency medical service, 54% have only a basic life support (BLS) level of care. An additional 33% have BLS with advanced life support (ALS) sometimes available, and only 13% offer ALS all the time. For those patients entered into the trauma registry (e.g., injured seriously enough for hospital admission), the average transport time from the scene is over 20 minutes. Ten of the 17 rural hospitals in Alaska (pop. less that 25,000) do not have surgical capabilities. Of the six regional centers serving the outlying areas, distances range from 250 – 550 miles (and much further in the Aleutians) with an average transport time of 6 –9 hours for critical patients. Alaska has one designed trauma center, Alaska Native Medical Center, which has been certified as a Level II trauma center, based on American College of Surgeons Committee on Trauma Criteria.

Prehospital Providers

Type of Provider	Total #	% Career *	% Volunteer
Emergency Trauma Technician (ETT)	~ 2,000	20%	80%
EMT-I	~ 2,500	40%	60%
EMT-II	~ 500	60%	40%
EMT-III	~ 500	60%	40%
Mobile Intensive Care Paramedic (MICP)	200	95%	5%

* Includes needing certification as part of job. EMS activities for ETTs and EMT-Is are rarely 100% of job.

Type of Provider	# Trained each year	# Leaving Active Service
ETT	2,000	1,000
EMT-I	2,000	1,000
EMT-II	500	200
EMT-III	500	100
MICP	20	15

[9] Alaska Population Overview, 1997 Estimates, Alaska Department of Labor

EMS Protocols and Policies

Currently, we do not have state protocols specific to pediatric patients. We plan to have model pediatric protocols in place before the end of this year and anticipate they will be based on the National Association of EMS Physicians' final version of the pre-hospital pediatric protocols. We will use these protocols as a blueprint and tailor them to Alaska specific needs and then seek adoption as state guidelines. The protocols will be distributed to all EMS agencies to be incorporated into their current protocols or used as a guideline in the development of their pediatric protocols.

Much of the work on the protocols will be accomplished by the EMSC Task Force, and the State Training Committee, a group representing EMS training programs throughout the state.

Critical Incident Stress Management

Critical Incident Stress Management (CISM) services are available throughout the state of Alaska for both pediatric and adult emergencies.

Transport/Transfer

The Department of Health and Social Services, Section of Community Health and EMS (CHEMS) certifies ground (ambulance and first responder) and air medical services under AS 18.08.082. As part of the application, the applicant inventories the ambulance and verifies that necessary emergency medical equipment is available. Recently, we updated the application and expanded the pediatric emergency medical equipment by adapting the national guidelines for pediatric equipment and supplies for Alaska.

At this time, child car safety seats are categorized as "desirable equipment" but not mandatory. We encourage EMS to allow the presence of parents during transport, but believe it should not be mandated.

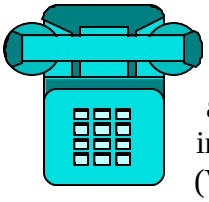
Alaska does not have a specific designation for "MICU" vehicles. We do have one state certified critical care air ambulance that specializes in pediatric and neonatal interfacility transport based in Anchorage. This team is based at Providence Alaska Medical Center and is certified to transport high risk newborns from throughout the state. Airlift Northwest, from Seattle, has air ambulance and medical teams stationed in Juneau and Ketchikan. They often transport patients from Southeast Alaska to Seattle and, depending upon the status of the patient, may bring a specialized team from Seattle to transport the patient.

In 1995, CHEMS published the Alaska Trauma Triage, Transport and Transfer Guidelines. These guidelines are to be used as a resource to provide for rapid

identification of major trauma victims in the field, and a smooth transport through several tiers of medical care usually over prolonged times and distances to final definitive care.

The guidelines identify six distinct levels of medical resources within the state. They are:
? ? No medical resources
? ? Basic medical resources
? ? Organized EMS or CHA based system
? ? Clinic or non-surgical hospital
? ? Surgical hospital with some sub-specialty
? ? Comprehensive surgical hospital
Guidelines for each level have been developed. They are not specific to pediatric patients, but address all EMS and trauma patients.

Communications



In the state of Alaska, about 90% of the state's population is covered by 911 and 76% have 911-E, (enhanced 911). Some small, isolated villages do not have 911 and may use CB radios to contact emergency assistance, which usually would include a Community Health Aide (CHA) or a Village Public Safety Officer (VPSO).

Several of the problems with the 911 system include:
- Cellular phone calls to 911 may be routed to a 911 center outside the district.
- Alaska has not implemented the new FCC rules to link cellular phone calls to the 911-E system.
- State legislation that authorizes communities to charge for 911-E on monthly telephone bills has only been implemented in the larger cities, towns and boroughs because there is no state statute for unincorporated communities. Smaller towns may not generate enough money to support 911-E.

There is not uniformity in the pre-hospital communications system. In the Municipality of Anchorage, for example, there is an 800 megahertz trunking system. Most other communities rely on VHF radios. This may cause some problems with mutual aid communications with some of the outlying communities and Anchorage because of the different systems. In general, the most common mutual aid radio frequency statewide is 155.160, however some ambulance services, including those in the Municipality of Anchorage, do not have that frequency available. There is equipment which can enable the different systems to communicate, but the funding is not available at this time.

Some rural EMS agencies supplement radio systems with cellular phones. However cellular phone coverage is not universal statewide. There are many areas in rural/frontier Alaska where there is no emergency radio system coverage, (i.e., "dead spots"). Therefore, the EMS program is beginning to help rural/frontier EMS systems to purchase mobile satellite telephones to help provide coverage in "dead spot" areas.

A comprehensive state-wide EMS communications plan was developed in 1997, but there are inadequate funds available to implement it.

Emergency Medical Dispatch

Emergency Medical Dispatchers (EMD) are certified through the Section of Community Health and EMS (CHEMS) in the Department of Health and Social Services (DHSS). The purpose of the certification program is to provide uniform minimum standards for EMDs who routinely give medical treatment advice and other instructions to callers over the telephone before the arrival of EMS at the scene. To be certified, EMDs must have completed and passed a department approved EMD training course, have current certification in CPR, (including adult, child and infant), and have at least six months experience as a public safety dispatcher or provide other evidence approved by the department for equivalent experience.

CHEMS is responsible for approval of all EMD training courses and certification of EMDs. We are reviewing pediatric specific protocols and hope to have a state model in place by the end of the year. These protocols will need to be approved at the local level by the EMD Centers' medical directors prior to being incorporated into practice.

Training and Education

CHEMS, is responsible for certifying all emergency medical technicians (except at the paramedic level), emergency medical technician instructors, mobile intensive care paramedic training courses, and mobile intensive care paramedic course coordinators. The state of Alaska has four levels of EMTs:

? ? EMT-I
? ? EMT-II
? ? EMT-III
? ? Mobile Intensive Care Paramedic (MICP)
The MICP is licensed by the State Medical Board, but applications are reviewed by CHEMS staff.

Initial and recertification training courses are offered throughout the state and coordinated through the seven regional offices to ensure Certifying Officers are available to administer examinations. The Certifying Officers are responsible for ensuring the security, and consistency of the local examination administration process.

CHEMS is the final approval authority for all CME for those EMS personnel certified through DHSS. CME is available through the regional EMS offices, at the three state/regional EMS symposia, as well as national conferences. At this time there is no specific requirement for pediatric CME prior to recertification at any of the EMS levels.

It is often difficult to obtain continuing medical education courses in pediatric emergency care in rural Alaska. The courses are taken to the rural areas as funding allows or when

providers go to larger regional areas such as Fairbanks or Anchorage to participate in the courses. We offer continuing education at our annual EMS Symposium and many rural providers are able to attend with financial help from the regional EMS councils. Currently we are trying creative means to increase the options that rural EMS providers have by offering more programs on CD-ROM and will explore internet capabilities within the next year.

Some of the national courses offered in the state are Pediatric Advanced Life Support (PALS), Pediatric Basic Life Support (PBLS), and Emergency Nursing Pediatric Course (ENPC). We also have a Pediatric Prehospital Care Course, which will be updated in the coming year.

Pediatric courses are considered a high priority and supported to the extent that state and regional resources permit.

Quality Improvement

Quality Improvement is performed on a local level by the medical directors who are required to review all ambulance run reports. At this time, pediatric specific patient information can not be extracted from the reviews.

Detailed quality of care review reports are also provided to hospitals and ambulance services from the Alaska Trauma Registry on a routine basis.

MEDICAL DIRECTION OF EMS

The Alaska EMS system has four types of medical direction. There is a state-funded contract for the services of the State EMS Medical Director. The state EMS Medical Director may work with one or more other physicians to fulfill the requirements of the position. There is a federally-funded Alaska Area Native Health Service (AANHS) medical director, volunteer regional medical directors, and primarily volunteer local medical directors. These medical directors have responsibility for maintaining quality pre-hospital care within their areas. Many of the responsibilities for state and local medical directors are set forth in regulation.

State medical director: The state EMS medical director provides overall medical direction for the Alaska EMS program, represents the Alaska EMS program to the medical community and acts as physician liaison in gaining support for regional and statewide programs. The state medical director is a member of the State EMS Training Committee and responsible for the development, implementation, and evaluation of standards and guidelines for the provision of medical direction within the state's EMS system.

The state EMS medical director also plays a major role in the planning of the clinical track for the annual state EMS symposium in November.

Regional directors: Each of the seven EMS regions has a medical director to: provide overall medical direction for the regional EMS program; represent the regional EMS program to the medical community; and act as physician liaison in gaining support for local programs.

Local medical directors: All certified ambulance, medevac, and critical care air ambulance services must have an identified medical director. Emergency medical dispatch centers that utilize emergency medical dispatchers (EMD) have a medical director, as well as many of the first responder services. We also require a medical director for all EMT-II, EMT-III, MICP and EMD training courses. These physicians serve as the backbone of advanced emergency medical services in Alaska. They provide supervision of the medical care given by individuals and agencies under their supervision. Local medical directors are responsible for establishing and reviewing treatment guidelines and standing orders, critiques of emergency medical care through run reviews and on-site visits, and serve as a liaison between EMS providers and agencies and the medical community.

The federal AANHS medical director: provides overall medical direction for the Alaska Area Native Health Service EMS program in Alaska. The director works closely with the Alaska EMS program to coordinate priorities and participates in the Alaska Council on EMS (ACEMS) as a non-voting member. He or she also works closely with Public Health Service/Indian Health Service physicians for EMS medical direction.

The medical directors' roles are defined in regulation and there is a *Medical Directors' Handbook*. The state EMS medical director is always a resource for medical directors when problems or concerns arise. Many regional and local medical directors try to attend the annual state EMS symposium and participate in the clinical track and the meeting chaired by the state medical director. This is a great opportunity for the medical directors to bring up issues they may be dealing with and network with other medical directors.

The NHTSA TAT report recommended that we make the relationships between state, regional, and local medical directors more formal and increase the communication between these physicians. One of the CHEMS priorities for the next two years is to improve the resources available to physician medical directors.

DATA COLLECTION, RESEARCH AND EVALUATION IN EMS

Prehospital and Emergency Department Data Systems

Alaska has a model statewide pre-hospital run report, although emergency medical services agencies are not required to use it. The form is based on the national standard EMS data set and is available at no cost to volunteer EMS agencies. Approximately 15% of the state emergency medical services are using the form. That number is expected to increase somewhat over the next few years.

Currently, services are not required to submit patient run reports to the state office. All services are surveyed annually to obtain basic information about ambulance runs with about a 50% return rate. An important focus of our EMSC program is the development of a system for statewide EMS data collection. Several other programs within CHEMS are supporting this goal by providing resources which will magnify the impact of the EMSC programs contributions. In 2000, we expect to have at least five larger communities submitting data to the system and a great deal of interest in participating has been expressed by services throughout Alaska. Our plan for a statewide pre-hospital EMS data collection system has been developed and is available for review at: ***http://www.hss.state.ak.us./dph/ems/ems_data.htm***.

Within the next three years we will assist hospitals in implementing an emergency department data system. This system will retrieve emergency room data on emergency department patients who are not hospitalized. This can be used to assess and evaluate care as well as the effectiveness of various EMSC projects.

Alaska Trauma Registry

The Alaska Trauma Registry is a population based registry with all 24 acute care hospitals participating. This registry assists in obtaining some pre-hospital and emergency department data, but only of those patients who are hospitalized.

From 1991 through 1995, the Alaska Trauma Registry data and Traffic Crash data were linked. This was accomplished with federal grant money and currently there is no funding available to continue the project. The Alaska Trauma Registry data are linked to Vital Statistics death data, FARS data, and Harborview Medical Center trauma registry data on Alaska patients.

The Alaska Trauma Registry data are used extensively in the planning and evaluation of EMS and EMSC programs. Currently, the hospitals are not required to submit discharge data and there are insufficient resources for collecting pre-hospital data. The Trauma Registry is used consistently by many sources throughout the state, to include media, government officials, researchers and health professionals. It drives most of the projects of the Injury Prevention Program and is used to assist in the evaluation of the

effectiveness of the projects. The Trauma Registry is capable of tracking charges for health services and includes information on disability outcomes. The Trauma Registry also includes pre-hospital EMS data on patients admitted to a hospital for an injury.

PUBLIC INFORMATION, EDUCATION AND RELATIONS

There are many efforts statewide to educate and inform the general public. The EMS Unit in conjunction with Alaska Department of Public Safety, Highway Safety Planning Agency, distributes pamphlets each year called "Help Along the Way." The pamphlets contain information on EMS services along land and marine highways in the state and bordering communities in Canada. The pamphlet also includes: Alaska laws that apply to all motorists; first aid information; recommendations regarding emergency equipment to be carried in vehicles; and information about what to do if you are one of the first to arrive at a crash scene. It is widely distributed and used by travelers throughout Alaska, as well as in many Canadian communities along the Alaskan Highway.

Many other agencies are active in the state providing public information, education and relations. The activities and agencies involved are listed below:

Program	Agency	Contacts
Injury Prevention and Safety Programs (Statewide programs)	Alaska Safe Kids Coalitions in: ?? Anchorage ?? Fairbanks ?? Juneau ?? Barrow ?? Homer ?? Palmer ?? Seward ?? Soldotna	Peggy Hayashi Corlis Taylor Sharron Lobaugh Joe Dingman Sue Brooks Elizabeth Ripley Karol Fink Jane Fellman
	Head Start Program – Early childhood education	Marilyn Webb
	Health Education and Support – School counselors and alcohol and drug abuse prevention	Coney Danitz
	Rural Services – rural services and village suicide prevention	Susan Soule
	Healthy Kids Program – Early and periodic screening, diagnosis, and treatment program	Barbara Sylvester-Pellett
	Alaska Injury Prevention Program	Pat Carr
	Injury Prevention – Adolescent Health	Becky Judd
	Workplace Safety	Sherry Wright
	Forestry safety training	Cindy Elkins

	Alaska Council on the Prevention of Alcohol and Drug Abuse	Joseph DiMatteo
	Alaska Marine Safety Education Association – statewide drowning prevention, marine safety and survival.	Jerry Dzugan
	Alaska Public Interest Research Group – Consumer advocacy and children's safety	Cate Remme

Regional Programs	**Agency**	**Contact**
Interior	Tanana Chiefs Conference	Margaret Wilson
Northwest Arctic	Maniilaq Association	Coordinator – Injury Prevention Program
Norton Sound	Norton Sound Health Corporation	Coordinator – Implementation Training
Southeast	Southeast Alaska Regional Health Consortium	Kathy O'Gara
Southern	Anchorage Safe Communities Bristol Bay Area Health Corporation Chugachmuit – Homer Field Office Copper River EMS Council Kodiak Area Native Association Mt. Sanford Tribal Consortium Southcentral Foundation Community Education Division Southern Region EMS Council	Ron Perkins Ward Jones or Mary Alice Clark Skip Richards EMS Administrator Terry Stone Shirley Bergey Health education coordinator Public Information/Education Specialist
Yukon Kuskokwim	YKHC Injury Prevention Program YKHC Regional Alcohol and Drug Program	Injury Prevention Trainer Beth Kersey, MRA

Health Education Programs	Agency	Contact
	Alaska Health Fairs, Inc. (Health education at community health fairs statewide).	Judith Muller
	Traumatic Brain Injury Association – National Brain Injury Foundation	Debra M. Russell

CPR/First Aid Programs	Agency	Contact
	American Heart Association – Community Training Centers: ?? Aurora North Academy ?? Central Peninsula Hospital ?? Interior Region EMS Council ?? Ketchikan General Hospital ?? Norton Sound Health Corp. ?? Providence Health System Alaska ?? Bayside Fire Dept. and Providence Kodiak Island Medical Center ?? Southeast Region EMS Council	George Angus Janet Randa Dave Rockney Monica Schulz Michael Owens Judy Kyle Bob Himes Christy Kinter Michelle Twitty
	American Red Cross: ?? Tanana Valley Chapter ?? Southeast Alaska Chapter ?? South Central Alaska Chapter ?? Kodiak Chapter	Larry Baillon Lana Tolls Leeann Taylor Sally Magnuson

COORDINATION WITH PUBLIC SAFETY AND PUBLIC HEALTH ACTIVITIES

AGENCY	ACTIVITY	PEDIATRIC FOCUS? (Y/N)
Fire – Alaska Department of Public Safety, Division of Fire Prevention	Fire prevention and data	No
Law Enforcement – Alaska Department of Public Safety, Alaska State Troopers	Statewide law enforcement and public safety	No
Traffic Safety – Alaska Department of Public Safety, Highway Safety Planning Agency	Statewide motor vehicle crash prevention and data Grants to agencies for injury prevention programs, e.g. pedestrian safety, bike helmets	No Yes
Disaster Management – Alaska Department of Military & Veterans Affairs, Division of Emergency Services	Disaster planning	No
Maternal/Child Health – Alaska Department of Health & Social Services, Section of Maternal, Child, and Family Health	Injury prevention and adolescent health	Yes
Education – Alaska Department of Education, Health Education and Support	School counselors and alcohol and drug abuse prevention	Yes

Poison Control Centers

Alaska does not have a certified Poison Control Center. There is a center located at Providence Alaska Medical Center that maintains a toll-free number accessible from anywhere in the state. It is answered by the pharmacy staff who are also responsible for the inpatient pharmacy needs. Therefore, the amount of time they are available to help the public is limited. The center is not certified by the American Association of Poison Control Centers. There is also poison control assistance available from the local hospitals in Fairbanks and Juneau. The numbers are published in the local phone books. In addition, Elmendorf Air Force Base, in Anchorage, has a poison control number.

Injury Prevention Coordination

There are many coordinated activities between injury prevention and control and EMS. Aside from the state office, many of regional offices work extensively with the Safe Kids coalitions within their regions. During our annual state EMS symposium we have an injury prevention track that attracts EMS providers at all levels.

Children with Special Health Care Needs

At this time there is little coordinated activity with EMS and the office of Children's Special Medical Support Services. In the next year we plan to work with this agency to refine the system of EMS notification of this population within communities throughout the state. This also will be accompanied by a presentation at our annual EMS symposium that will begin the education of caring for these patients in the pre-hospital setting.

Domestic Violence Services

Our agency has also worked extensively with the Alaska Council on Domestic Violence and Sexual Assault and the Alaska Network on Domestic Violence and Sexual Assault to educate EMS providers about domestic violence and their role in recognition and intervention, particularly when children are involved. During our annual symposium we will have a one-day "Family Violence Workshop," which will be coordinated by EMS providers with presenters from domestic violence programs, senior services, child protective agencies and law enforcement.

Currently, there is a working group developing a pre-hospital domestic violence screening form. This form will better define the role of EMS in domestic violence response and facilitate earlier identification of victims of domestic violence.

At this time there are limited or no coordinated activities between EMS and the following agencies:

AGENCY	COORDINATION	COMMENTS
Child Fatality Review Boards	No	EMS personnel are mandatory reporters and most receive specific training on the recognition of child abuse and neglect.
Healthy Start	No	
School Health	Yes	A health promotion staff member in the CHEMS Section has worked with the Department of Education on school health issues.
Head Start	Yes	The Injury Prevention Coordinator has worked with the Head Start Program in the past.
Child Care	Yes	The Injury Prevention Coordinator has provided injury prevention information to child care agencies.
Recreational Programs	Yes	The Injury Prevention Coordinator has done some work in the past on playground safety.
Immigrant Health	No	
Adolescent Health	Yes	The Injury Prevention Coordinator has worked with the Adolescent Health Coordinator in the Section of Maternal, Child, and Family Health.
Substance Abuse	Yes	The Injury Prevention Coordinator has worked with a staff member in the Division of Alcoholism and Drug Abuse on Suicide Prevention, and the Trauma Registry Coordinator has published data on alcohol and illicit drug involvement in injury events.
Mental Health	Yes	The Injury Prevention Coordinator has worked with staff member from the Division of Mental Health and Developmental Disabilities on Suicide Prevention.

LINKAGES BETWEEN EMS SYSTEM AND CHILD HEALTH SYSTEM

Primary Care Providers

Many primary care providers are involved with EMS, particularly in rural Alaska, serving as medical directors for local ambulance services, providing EMS training, and supporting EMS in other ways.

In some rural communities there is no physician, nurse practitioner or physician assistant. The only health care providers in the community may be the Community Health Aide (CHA) who may also be trained as an EMT. They have regular contact with a physician at their regional referral center.

Children's Access

Through Denali KidCare, more children age 18 and below will have regular access to a primary care provider. It is estimated that as many as 11,600 children will be eligible for enrollment in this program.

School Health Setting

The relationship with EMS and the school health system varies from school district to school district. Many school districts do not have enough nurses for each school and others are able to have a nurse at each school in the district. Some rural high schools and EMS agencies have become creative in developing a relationship. Several communities have started Emergency Trauma Technician training in the high school with great success. These participants complete the training as part of their health class requirement. We are hoping to expand the program to more schools, focusing on rural areas.

There is also a vocational high school in Anchorage that has an outstanding EMT-I training program and provides EMD training. We encourage local EMS agencies to get involved with the schools and offer training in emergencies and injury prevention. This helps to make the students better consumers of health care and improve understanding of what actions to take in a true emergency.

Child Care Providers

All child care providers are required to be trained in First Aid, CPR and rescue breathing.

Children with Special Health Care Needs

Children with special health care needs, either from acquired disabilities or birth defects and chronic illness, are referred to the Division of Mental Health and Developmental Disabilities, Department of Health and Social Services in a number of ways. Some of the

more common referral sources include: early intervention programs; local and regional and out of state hospital discharge planners; community services providers; school personnel; Division of Family and Youth Services, Department of Health and Social Services; physicians; and other families that have children with disabilities.

Families with children who are eligible for Developmental Disability services are offered the opportunity to meet with a Family Support Specialist who would discuss immediate and long-term needs and assist the family in completing any identified referrals and steps to access appropriate services. As an integral part of the intake and interview process, families frequently are referred to other programs and agencies. Some of the more common referrals include: Early Intervention; Public Assistance; Assistive Technology; Equipment Loan Library; Vocational Rehabilitation; Local School District Special Education Services; private and public therapies; and transportation needs.

The nursing staff with the Developmental Disabilities Program attend discharge planning rounds at the major hospitals in Anchorage on a weekly basis. This results in:

- identification of newly disabled children that may need services;
- comprehensive discharge/referral planning, (including EMS providers) for children experiencing a disabling condition (ongoing or new);
- crisis prevention by taking a proactive approach in accessing services as early as possible for consumers;
- identification of a key person (Family Support Specialist) that can assist the family with questions and systems interface;
- close communications with providers statewide that enhances services and builds a cohesive service system; and
- enhanced training for families and providers as a way to facilitate transitions to home settings.

Currently, there is no integration of emergency care plans for children with special health needs into the school Individualized Health Plans.

At this time, there are no policies that govern access to and quality of home care for children other than what is required of licensed foster parents. The Division of Mental Health and Developmental Disabilities has instituted best practice guidelines, including emergency planning, which encompass the licensing standards; individualized home safety assessments; EMS and utility notification for medically fragile and/or technology dependent children; on-site training – including manuals, checklists and videos; and obtaining GPS locations. Local providers are becoming aware as more children are being discharged and transitioned to home settings and comprehensive planning occurs.

Alaska Comfort One Program

The Alaska Comfort One Program is the statewide pre-hospital Do Not Resuscitate (DNR) program. This program was started in 1996 and is outlined in

regulation (7 AAC 16.10.010 – 7 AAC 16.10.090). The program allows for the patient's wishes regarding resuscitation to be honored in the pre-hospital setting. It also provides a system for identifying patients with valid DNR orders.

The program is applicable to all terminally ill patients, including children. Only physicians can enroll patients. The application is a single-page, multi-part carbonless form that has sections for the physician and the patient to complete. If the patient is unable to sign due to age, or disability, the physician is encouraged to obtain the legal guardian's signature, but it is a valid order once the physician signs.

Once enrolled, the patient can carry a copy of the form, wallet card or purchase a bracelet that will identify him or her as enrolled in the Comfort One Program. We have made efforts to educate health care providers and the public about the program to increase awareness and respect for the wishes of both patient and family. A lack of funding to implement and maintain this program has significantly decreased our ability to provide education and support.

EMSC RECOMMENDATIONS

The Emergency Medical Services for Children program has a long history in Alaska and has contributed significantly to the capabilities of the EMS system. Beginning in the early 1990's, the EMS program provided equipment and training to a variety of target audiences. Unfortunately, when the EMSC funds were not available, some of the activities ceased. However, the programs created enthusiasm for EMSC activities, allowed for the development of some excellent resources, and provided training for many EMTs who remain in the EMS system. Importantly, the early programs allowed us to identify priorities and methodologies most likely to be effective.

Following the initial grant, the focus changed to targeted issues related to injury prevention. This served to further establish EMSC in Alaska, but the target audience was much narrower. Currently there are two active EMSC grants that are rebuilding and solidifying the partnerships and programs that were developed in earlier years.

Demographic Information

Overwhelmingly, we found a lack of reliable data when evaluating EMSC in Alaska. The one area that reliable and consistent data is available is in the Alaska Trauma Registry. All 24 hospitals throughout the state participate. The limitations are that we are only able to get data on patients that are hospitalized for trauma. Pre-hospital data on patients that are not hospitalized is not consistently available. Annually, we survey the services to determine: 1) number of EMS calls; 2) number of patients evaluated, treated, or transported; 3) chief complaint; 4) how many were work-related injuries; 5) whether alcohol was suspected to be a factor in the injury; and 6) patient's residential status. The completion rate is between 60 – 70% each year. A plan is currently underway to improve pre-hospital data collection, but it will be a number of years before all the services are participating.

A lack of reliable and consistent data was also found when we surveyed all the emergency departments about emergency room visits and chief complaints for children. Several of the facilities are not collecting patient records in the emergency department on a computer, therefore, they are not able to reliably give us the chief causes of emergency department visits and the number of patients seen. Several reported they hope to be able to get this data in a timely fashion in the near future.

Leadership of EMS System

The five-year strategic plan for EMSC in Alaska has recently been completed and will help guide the activities of the EMSC program. It is an ambitious plan and will require the work and collaboration of many different agencies throughout the state.

The EMSC Task Force is really in its infancy and in need of expansion beyond the EMS community. This is a goal of the near future to expand and revitalize this group and establish clear and strong support and leadership outside the state EMS office.

Health Care Facilities

As outlined on page 11, Alaska has only facility that has been certified by the American College of Surgeons and designated by the state of Alaska. Designation criteria have been established for a Level IV facility. Verification will be performed by the facility itself or by a team coordinated by the department. As yet, none of the facilities in Alaska have applied. Specific needs in this category include: increasing the number of rural hospitals seeking Level IV Trauma Center designation, identifying pediatric emergency response capabilities, and enhancing the state trauma plan.

Pre-hospital Care

Pediatric training for pre-hospital, clinic and emergency department staff remains a need in the state of Alaska. Currently, we are surveying emergency department staff, pediatricians, community health aides/practitioners, and mid-level clinical staff as to their pediatric training beyond initial training and their interest in obtaining further training. We will use this information to develop a training plan to help focus limited resources into areas with the greatest need. This plan should guide the pediatric training needs for the state for the next few years. We are also looking at funding more training for instructors in pediatric emergency care and developing a self-study pediatric emergency medical care training program. This would enable health care providers in rural areas to improve their knowledge of pediatric emergency medical care.

Medical Direction of EMS

The importance of physician's involvement in EMSC activities cannot be overstated. Although a lack of rural physicians makes it difficult to provide medical direction for all services providing basic life support, all services providing advanced life support are required to have a medical director who assumes specific responsibilities set forth in statute and regulation. CHEMS is increasing the number of physicians involved in statewide EMSC planning and efforts. In response to the NHTSA TAT report, there will be significant activities undertaken to improve the resources available to medical directors, including the development of internet list services, a physician oriented web page with downloadable resources. Lastly, efforts will be made to more formally describe the relationships between local, regional, and state medical directors.

Data Collection, Research, and Evaluation in EMS

Although most EMS agencies routinely collect EMS data, few store it electronically. There is not yet a statewide system for electronic acquisition and analysis of pre-hospital data. There are plans within the next three years to begin a pre-hospital data collection system to retrieve better and reliable data. This will greatly improve our ability to evaluate pediatric pre-hospital emergency care. To get all the services up and running will be a long process and involve changing old patterns. During our annual EMS Symposium we will have a presentation that speaks to the process and how to overcome "obstacles" when implementing a pre-hospital data collection system. We will also be hosting a NHTSA EMSIS workshop coupled with a vendor workshop in January, 2000 to assist the services in choosing the electronic data collection system that will work best for them.

Coordination with Public Safety and Public Health Activities

This is an area that can use improvement. There is coordination with many of the agencies and programs identified but more is needed. This is particularly true in the area of children with special health care needs. This group of children have varied needs that don't easily fit under one agency's oversight. Involvement of the EMS system and health care providers in the child's community is essential. This will be explored in the coming year as to how best identify these children and ensure their needs will be met.

Emergency medical services for children program has come a long way from its beginning, but we have much left to do. A vital activity will be revitalizing the EMSC Task Force. Ideally, as the EMSC program matures and becomes an integral part of the state's EMS system, the migration of oversight activities from DHSS to an external council or board should be considered. The group also needs to expand to include injury prevention professionals and consumer advocates. This will ensure institutionalization of EMSC in the state of Alaska.